

REMARKS

Status of the Claims

- Claims 1-17 are pending in the Application after entry of this amendment.
- Claims 1-16 are rejected by Examiner.
- Claims 1-16 are amended by Applicant.
- Claim 17 is added.

Claim Amendments

Claims 1-16 are amended as follows:

Claim 1:

In Claim 1, the terms 'first', 'second' and 'third' have been added to the network stations for increasing intelligibility of the claim. Further, the term 'device' has been changed into the term 'network station' for to have consistent language throughout the claim.

Further, the wording of the claim has been amended so as to recite '...a check is made to determine whether a third network station having a functionality corresponding to the command is present in the first network and is connected to the first network station to be controlled...'. This amendment is supported in the original specification on page 4, line 34 – page 5, line 6. The third network stations exemplarily named in the specification are the tuner or the audio amplifier, which provide the functions of changing the channel or the volume, respectively, which are not available in the first network station. A display is named as an exemplary first network station in the specification.

Claim 2:

Claim 2 is amended to provide consistent language with claim 1, from which claim 2 depends. In particular, the term 'further network station' has been

replaced with the term 'third network station', and the term 'third network station' has been replaced with the term 'fourth network station'.

Claim 3:

Claim 3 is amended to provide consistent language with Claim 1, from which claim 3 depends. Further, the location of the first network station to be controlled with respect to the type of the network to which it is attached has been set out more clearly.

Claim 4:

A reference numeral has been deleted. Minor changes improve upon the intelligibility of the claim.

Claims 5-6:

Minor changes improve the intelligibility of the claim.

Claim 7:

Claim 7 has been made dependent from Claim 6 in order to allow for Claims 8 and 9 to properly depend thereof.

Claims 8 and 9:

Claims 8 and 9 have been made depending from Claim 7. Further, the origin of the command in the UPnP domain has been added. Support for this amendment is provided in the specification in the description of the exemplary embodiment beginning on page 12 in line 7 and continuing to page 13, line 10.

Claim 10:

The term 'connection unit' has been amended to read 'network connection unit'. Minor changes improve upon the intelligibility of the claim.

Claims 11, 12, 13:

Minor changes improve upon the intelligibility of the claims.

Claims 15 and 16:

The origin of the command in the UPnP domain has been added. Support for this amendment is provided in the specification in the description of the exemplary embodiment beginning on page 12 in line 7 and continuing to page 13, line 10.

New Claim 17 corresponds to former Claim 7, which is amended to provide a basis for amended Claims 8 and 9.

Claim Rejections Pursuant to 35 U.S.C. §103

Claims 1-5, and 10-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP Patent Application No. 0 705 012 to Netravali in view of U.S. Patent No. 6,665,020 to Stahl et al. (Stahl) and in further view of U.S. Patent No. 7,308,644 to Humpleman. Applicant respectfully traverses the rejection via amendment.

The present invention is directed to a bidirectional network connection unit that connects a network of the first type and a network of the second type. The bidirectional network connection unit receives commands originating from a second network station in the network of the first or second type, which commands are bound for specific first network stations in the network of the respective other type. If the addressed first network station, for which the command is bound, provides a functionality corresponding to the command, the bidirectional network connection unit converts the control command from the format of the network from which the command originated into the format of the network for which the command is bound, and transmits the command to the addressed first network station. If the addressed first network station does not

provide the functionality corresponding to the command, the bidirectional network connection unit tries to find a third, substitute network station that is connected to the addressed first network station, and which provides a functionality corresponding to the command.

Netravali discusses a gateway system for connecting a first and a second communication network. The gateway system has a protocol converter for converting the protocols of each network into the respective protocol of the other network. Netravali does not disclose performing an indirect conversion of the control commands including checking whether a third network station is present in the first network that has functionality corresponding to the command and is connected to the first network station to be controlled as recited in pending Claims 1 and 10.

Stahl discloses two devices connected by a network capable of carrying audio/video signals as well as control commands. One of the network devices in Stahl receives commands in a first proprietary format, e.g. in a proprietary format for infrared remote controls (Stahl, column 7, lines 44 – 46). The commands in the first proprietary format are used for controlling the receiving one of the network devices, and are processed without any further conversion. If the user intends to control a further device which originally is responding to a second proprietary format different from the first proprietary format the commands cannot be processed by the further device. Rather, the commands are converted into a format that can be understood by the further device (Stahl, col. 2, lines 34 – 37). However, in Stahl, prior to controlling the further device, the user chooses the further device which he intends to subsequently control. The receiving one of the network devices then receives the commands in the first proprietary format and converts them into a universal format. The universal format can be understood by all devices connected to the network. After conversion into the universal format, the receiving one of the network devices transmits the converted command on the network (Stahl, column 8, lines 6 – 13).

Applicant respectfully submits that Stahl teaches direct conversion of commands, since the receiving device converts commands intended to be used by a peripheral device into a format that is understood by the respective peripheral device, after the destination device has been selected. Whether the peripheral device ultimately performs another conversion into a third format is irrelevant, since the peripheral device already received and understood the command. Stahl converts the command into the universal format for the peripheral that is selected by focusing on this type of device prior to sending commands (Stahl, column 8, lines 6 – 14). Applicant respectfully submits that this action corresponds to directly addressing one device in one network domain (IEEE-1394) from another network domain (proprietary IR remote code), via a bridge device (DTV after "focus" has been set to DVCR).

Thus, Applicant respectfully submits that Stahl does not teach indirect conversion of control commands as recited in amended independent Claims 1 and 10.

Pending Claims 1 and 10 performs an indirect conversion of the control commands if the first network station does not have the functionality of the control command. In that instance, pending Claims 1 and 10 operate to determine whether a third network station, having a functionality corresponding to the command, is present in the first network. If yes, then the network connection unit converts the control command into the corresponding format and forwards the command to the third network station.

The term indirect conversion as used in the claims and in the specification not only relates to the command but also to the network device that is ultimately addressed. (e.g. See the example shown in the last paragraph of page 12, present Specification). A command that was originating from a command set for an integrated device having a display, a tuner and an audio amplifier needs to be directed to either a stand-alone display device, a stand-alone tuner device, or a stand-alone audio amplifier device, depending on the actual command. Each of these stand-alone devices has its own command set, which does not necessarily

fully comprise the command set for the integrated device. However, the commands for the stand-alone devices in each case include the device identifier. The network connection unit not only translates the commands from the first format into the second format, but also identifies the correct addressee for the command.

Applicant notes that Stahl fails to disclose the Claim 1 and Claim 10 aspect that a network connection unit tries to find a connected substitute device, which is capable of performing the requested command, and only then transmits the command in the converted format. In contrast, Stahl discloses that the converted command is transmitted on the connecting network without regard to whether a connected device is present and without regards to whether a device can perform the required task. Thus, Stahl, like Netravali, fails to disclose performing an indirect conversion of the control commands including checking whether a third network station is present in the first network that has functionality corresponding to the command and is connected to the first network station to be controlled as recited in pending Claims 1 and 10.

Humpleman discloses home devices connected to a network. Upon connection to the network the home device is entered into a link file as an entity. The link file may contain hyper-text links associated with a device button for each home device, upon selection of which the respective selected device transmits an HTML home page (Humpleman, column 2, lines 32 – 43). The user is then enabled to control a selected device via a browser based GUI that is provided by the respective selected device in the form of the HTML page. Humpleman does not teach command conversion or translation. Humpleman merely discusses a browser that can display GUIs provided by individual devices upon selection thereof, the GUIs allowing direct control of the selected device using commonly known techniques (Humpleman, column 4, lines 5 – 21).

The "check" performed in Humpleman is intended to detect the presence of a device in the network, whereas the check performed in amended independent Claims 1 and 10 is made to determine if a third network station is

not only present but also if the third network station has the functionality corresponding to the command. Consequently, the more detailed check performed in the claimed invention substantially differs from the simpler check disclosed in Humpleman. Humpleman fails to determine if a station has functionality corresponding to given command.

Further, no translation between different protocol structures for devices is disclosed in Humpleman. Rather, each device maintains its own set of commands that is provided to and rendered in a browser in HTML on the display screen of either a master control device, or any other device that is capable of displaying a browser based GUI (column 4, line 65 – column 5, line 2). Any client must be capable of providing a GUI on a graphical display, and must accept inputs from an input device (column 5, lines 3 – 7).

Applicant respectfully submits that Netravali, Stahl, and Humpleman, either considered alone or in combination, fail to teach or suggest the features of pending independent Claims 1 and 10. Specifically, Netravali, Stahl, and Humpleman fail to teach or suggest that performing an indirect conversion of the control commands including checking whether a third network station is present in the first network that has functionality corresponding to the command and is connected to the first network station to be controlled as is recited in pending Claims 1 and 10.

Applicant respectfully submits that pending independent Claims 1 and 10 are thus not rendered obvious under 35 USC §103(a) per MPEP §2143.03 because all elements of independent Claims 1 and 10 are not found in the cited art. Also, Claims 2-5, and 11-13 are also not rendered obvious per MPEP §2143.03 because they depend on non-obvious independent Claims 1 and 10 respectively. Applicant respectfully requests reconsideration of the 35 U.S.C. §103(a) rejection of pending Claims 1-5, and 10-13 based on the amendments and remarks above.

Claim Rejections Pursuant to 35 U.S.C. §103

Claims 6-7, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP Patent Application No. 0 705 012 to Netravali in view of U.S. Patent No. 6,665,020 to Stahl et al. (Stahl) and in further view of U.S. Patent No. 7,308,644 to Humpleman and in further view of EP Patent Application No. 1 286 501 to Jean-Baptiste. Applicant respectfully traverses the rejection via amendment.

The teachings of Netravali, Stahl, and Humpleman are discussed above. Jean-Bapriste discusses a method for bridging a UPnP network with a HAVi network in which both networks are connected to a bridge device.

However, Jean-Baptiste, like Netravali, Stahl, and Humpleman, fails to discuss performing an indirect conversion of the control commands including checking whether a third network station is present in the first network that has functionality corresponding to the command and is connected to the first network station to be controlled as is recited in amended independent Claims 1 and 10 upon which Claims 6-7 and 14 depend respectively.

Since independent Claims 1 and 10 are not rendered obvious by the combination of Netravali, Stahl, and Humpleman because all elements of independent Claims 1 and 10 are not taught or suggested by the combination, then dependent Claims 6-7 and 14 are likewise rendered non obvious under 35 U.S.C. §103(a) per MPEP §2143.03. Applicant respectfully requests reconsideration of the 35 U.S.C. §103(a) rejection of pending Claims 6-7 and 14.

Claim Rejections Pursuant to 35 U.S.C. §103

Claims 8-9, and 15-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP Patent Application No. 0 705 012 to Netravali in view of U.S. Patent No. 6,665,020 to Stahl et al. (Stahl) and in further view of U.S. Patent No. 7,308,644 to Humpleman and in further view of EP Patent Application No. 1 286 501 to Jean-Baptiste and in further view of U.S. Patent Application No.

2004/0227779 to Weber et al. (Weber). Applicant respectfully traverses the rejection via amendment.

The combined teachings of Netravali, Stahl, Humpleman, and Jean Baptiste are discussed above with respect to the rejection of Claims 6-7 and 14.

Weber discusses a method for providing a user interface for controlling an appliance in a network of distributed stations having various HAVi functional component modules (FCM) including a tuner-FCM and an amplifier FCM.

However, Weber, like the combination of Netravali, Stahl, Humpleman, and Jean-Baptiste fails to discuss performing an indirect conversion of the control commands including checking whether a third network station is present in the first network that has functionality corresponding to the command and is connected to the first network station to be controlled as is recited in amended independent Claims 1 and 10 upon which Claims 8-9 and 15-16 depend respectively

Since independent Claims 1 and 10 are not rendered obvious by the combination of Netravali, Stahl, Humpleman, Jean-Baptiste, and Weber because all elements of amended independent Claims 1 and 10 are not taught or suggested by the combination, then dependent Claims 8-9 and 15-16 are likewise rendered non obvious under 35 U.S.C §103(a) per MPEP §2143.03. Applicant respectfully requests reconsideration of the 35 U.S.C. §103(a) rejection of pending Claims 8-9 and 15-16.

Conclusion

Applicant respectfully submits that the amended pending claims patentably define over the cited art and respectfully requests reconsideration and withdrawal of the rejections of all pending claims based on the amendments and arguments presented herein.

Serial No. 10/561,898
Resp. dated January 29, 2009
Reply to Office Action dated April 29, 2008

PATENT
PD030070
Customer No. 24498

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 07-0832 therefore.

Respectfully submitted,
Ingo Hutter

Date: January 29, 2009

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